

Biloxi, Mississippi, August 6th: the extraordinary continuance of low tides operates greatly to delay the passage over the bar of vessels of deep draft.

Low tides were also reported from the following stations:
Eastport, Maine, 2d.
Indianola, Texas, 2d.

WATER TEMPERATURE.

The following table gives the normal temperature of water at surface; the highest and lowest temperatures of the water at the several stations; the range of water temperature; the mean temperature of the air at the station; and the depth of water at which the observations are taken:

Temperature of water for August, 1884.

Station.	Normal temperature of water at surface.	Temperature at bottom.		Range.	Average depth, feet and inches.	Mean temperature of the air at station.
		Max.	Min.			
	°	°	°		ft. in.	°
Atlantic City, New Jersey	71.4	73.9	72.4	3.5	2 9	71.5
Alpena, Michigan	69.9	72.8	65.5	9.3	12 3	62.6
Augusta, Georgia	84.2	86.7	80.0	6.7	6 7	79.1
Baltimore, Maryland	78.0	79.7	76.1	3.6	9 10	75.2
Block Island, Rhode Island	66.9	69.0	63.2	5.8	7 10	67.4
Boston, Massachusetts	64.3	68.5	62.5	6.0	20 10	68.3
Buffalo, New York	71.5	73.0	68.4	5.2	9 7	67.5
Canby, Fort, Washington Territory	105.6	67.1	58.5	8.6	15 9	66.7
Cedar Keys, Florida	80.5	87.2	83.4	3.8	10 11	81.2
Charleston, South Carolina	83.4	84.3	78.5	5.8	41 6	78.9
Chicago, Illinois	69.3	73.2	60.4	12.8	8 3	68.8
Chincoteague, Virginia	77.7	85.6	69.0	14.6	4 2	73.3
Cleveland, Ohio	72.8	76.1	69.2	6.9	14 0	68.2
Detroit, Michigan	71.2	75.0	66.6	8.4	23 0	69.4
Delaware Breakwater, Delaware	72.3	76.7	67.4	9.3	9 1	73.6
Duluth, Minnesota	61.0	70.2	53.3	16.9	9 11	63.7
Eastport, Maine	49.9	51.0	48.6	2.4	14 9	61.0
Escanaba, Michigan	65.2	70.2	57.0	13.2	18 3	62.7
Galveston, Texas	84.3	88.0	83.3	4.7	12 1	83.8
Grand Haven, Michigan	71.9	77.2	66.1	11.1	19 0	65.7
Indianola, Texas	86.5	87.6	84.1	3.5	8 11	81.9
Jacksonville, Florida	86.4	87.8	84.0	3.8	18 0	79.8
Key West, Florida	87.3	89.1	85.1	4.0	16 9	83.9
Mackinaw City, Michigan	164.6	72.6	56.0	16.6	10 0	62.2
Macon, Fort, North Carolina	79.8	81.5	76.0	5.5	9 0	76.6
Marquette, Michigan	60.3	62.8	51.6	11.2	10 0	63.0
Milwaukee, Wisconsin	64.3	70.8	48.1	22.7	8 0	65.8
Mobile, Alabama	85.1	86.0	80.0	6.0	16 11	78.7
New Haven, Connecticut	73.0	77.0	68.0	9.0	15 6	69.1
New London, Connecticut	71.6	76.3	64.0	6.3	12 10	68.5
New York City	72.8	74.3	70.2	4.1	16 3	71.5
Norfolk, Virginia	80.0	81.6	73.8	7.8	16 7	79.0
Pensacola, Florida	84.9	87.3	80.1	7.2	17 4	80.2
Portland, Maine	60.8	63.9	56.3	7.3	16 7	67.5
Portland, Oregon	68.8	75.2	72.2	3.0	56 11	68.0
Sandusky, Ohio	74.1	77.0	68.0	9.0	10 9	70.4
Sandy Hook, New Jersey	72.1	77.3	68.4	7.9	1 3	71.7
San Francisco, California	60.4	62.0	56.3	5.7	38 7	58.7
Savannah, Georgia	83.7	85.6	79.8	5.8	10 6	78.7
Smithville, North Carolina	82.3	83.0	77.0	6.0	10 10	77.1
Toledo, Ohio	74.8	77.1	69.2	7.9	11 8	70.0
Wilmington, North Carolina	81.3	82.3	74.5	7.8	20 8	76.9

* Record for 27 days.

† For 1 year only.

‡ Record for 2 years only.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for August, 1884, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentage of verifications to be 83.40 per cent. The percentages for the four elements are: Weather, 89.12; direction of the wind, 80.22; temperature, 80.61; barometer, 82.47 per cent. By geographical districts, they are: For New England, 84.12; middle Atlantic states, 83.47; south Atlantic states, 85.71; eastern Gulf states, 85.33; western Gulf states, 84.15; lower lake region, 82.76; upper lake region, 82.18; Ohio valley and Tennessee, 82.32; upper Mississippi valley, 85.36; Missouri valley, 76.75; north Pacific coast region, 83.87; middle Pacific coast region, 100.0; south Pacific coast region, 100.0. There were eleven omissions to predict out of 3,191, or 0.34 per cent. Of the 3,180 predictions that have been made, eighty or, 2.51 per cent., are considered to have entirely failed; one hundred and forty-six, or 4.59 per cent., were one-fourth verified; three hundred and sixty-seven, or 11.54 per cent., were one-half verified; six hundred and nineteen, or 19.47 per cent., were three-fourths verified; 1,968, or 61.89 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

CAUTIONARY SIGNALS.

During August, 1884, fifty-nine cautionary signals were ordered. Of these, twenty-eight, or 47.46 per cent., were justified by winds of twenty-five miles or more per hour at or within one hundred miles of the station. No off-shore signals were ordered. The above number does not include signals ordered at display stations where the velocity of the wind is only estimated.

During the month there were seventy-four occurrences of velocities of twenty-five miles per hour or more without signal displays. Of this number there were five cases in which the signal displays were late and one in which the signal was lowered too soon. The following is a record of these occurrences, giving for each date the stations, direction, velocity and duration of gale when reported:

August 1st: Indianola, 29 miles; Fort Macon, nw., 42, 2½ hours.

August 3d: Kitty Hawk, sw., 25, ½ hour; Detroit, sw., 25, 2 hours, signal order late.

August 4th: Barnegat, sw., 28; Little Egg Harbor, s., high; Sandy Hook, 26; Cape May, s. 26, 10 hours; Delaware Breakwater, sw., 32; Fort Macon, sw., 28, 11 hours; Smithville, sw., 26, squall; New Orleans, nw., 34, squall.

August 5th: Block Island, sw., 26; Kitty Hawk, w. 26, squall; Fort Macon, sw., 30, squall.

August 6th: Duluth, n., 26, signal late; Grand Haven, w., 28.

August 7th: Cape Henry, n., 28, signal late; Chincoteague, n., 27, signal late; Delaware Breakwater, ne., 30, signal late; Sandusky, n., 30, 3 hours.

August 11th: Kitty Hawk, ne., 31, 4 hours.

August 12th: Delaware Breakwater, 26; Cape Henry, ne., 28, 17 hours; Kitty Hawk, ne., 36, 9 hours; Fort Macon, ne., 27, 1 hour.

August 13th: Block Island, ne., 32; Point Judith, ne., high; Kitty Hawk, ne., 35, 23 hours.

August 14th: Kitty Hawk, ne., 31, 12 hours.

August 15th: Fort Macon, ne., 26, 1 hour.

August 17th: Kitty Hawk, ne., 25, 1 hour.

August 18th: Duluth, ne., 28; Grand Haven, s. 32; Milwaukee, sw., 28, 2 hours.

August 19th: Key West, ne., 31, squalls, the "Alice Vane" lost her foretopmast; Grand Haven, s., 32, vessel dismasted in squall, damage \$1,100.

August 20th: Milwaukee, sw., 32, 7 hours.

August 21st: Cape May, s., 30, 6 hours; Kitty Hawk, sw., 27, 2 hours.

August 22d: Block Island, sw., 26; Sandy Hook, w., 34; Delaware Breakwater, s., 53, squalls; Cape May, s., 52, squalls.

August 23d: Grand Haven, nw., 27; Buffalo, sw., 36, squalls, lake very rough; Rochester, w., 28, 4 hours.

August 24th: Eastport, nw., 26, twenty minutes; Kitty Hawk, e., 29; Cape Henry, ne., 27, at night; Sandusky, n., 26, forty-five minutes; Sandy Hook, n., 30; Thatcher's Island, n., 31, ½ hour.

August 25th: Oswego, sw., 26, 20 hours, schooner "Belle" sunk; Fort Macon, ne., 27, 1 hour; Thatcher's Island, nw., 29, 3 hours; Kitty Hawk, e., 29; Grand Haven, s., 28; Escanaba, s., 28, ½ hour; s., 33, 4 hours; s., 30, 1½ hours; this was a local storm but did some damage.

August 26th: Buffalo, sw., 26, 18 hours; Thatcher's Island, se., 32, 6 hours.

August 27th: Marquette, se., 26.

August 28th: Buffalo, 26, squall.

August 26th: Rochester, s., 26, ½ hour; Buffalo, sw., 28, 1 hour; Kitty Hawk, s., 27, 4½ hours.

August 30th: Chincoteague, nw., 36, signal late; Delaware Breakwater, 31, signal lowered early; Kitty Hawk, nw., 26, 4½ hours; Fort Macon, sw., 27, 8 hours; Sandy Hook, nw., 40, squall; New York, e., 32, squall; Indianola, 30, light "norther"; Rochester, w., 27, 1 hour; Buffalo, sw., 35, squall.

August 31st: Fort Macon, sw., 34, 1 hour; Indianola, 31, light "norther."